RC Logger®

GB **Operating instructions**
E **Manual de uso**
F **Instructions d'utilisation**
I **Istruzioni d'uso**
D **Bedienungsanleitung**
NL **Gebruiksaanwijzing**
JAP **取扱説明書**

88005RC (mode 1)
88006RC (mode 2)

RC EYE One S

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CE

GB These Operating Instructions accompany this product. They contain important information on setting up and using the device. You should refer to these instructions, even if you are buying this product for someone else. Please retain these Operating Instructions for future use! A list of the contents can be found in the Table of contents, with the corresponding page number, on page 3.

E Estas instrucciones de operación acompañan este producto. Contienen información importante sobre cómo configurar y utilizar el dispositivo. Debe consultar estas instrucciones, incluso si está comprando este producto a otra persona. ¡Por favor, conserve este manual para uso futuro! Se puede encontrar una lista de los contenidos en índice, con el número de página correspondiente, en la página 43.

F Ces Instructions d'utilisation accompagnent ce produit. Elles contiennent des informations importantes sur la configuration et l'utilisation de l'appareil. Vous devez vous référer à ces instructions, même si vous avez acheté ce produit pour une tierce personne. Veuillez conserver ces Instructions d'utilisation pour une utilisation future ! Une liste des éléments contenus se trouve dans la Table des matières, avec le numéro de page correspondant, à la page 83.

I Queste istruzioni operative fanno parte del prodotto. Contengono importanti informazioni sull'impostazione e sull'utilizzo del dispositivo. Far riferimento a queste istruzioni anche se acquistate questo prodotto per altri. Conservare le istruzioni per una futura consultazione! Nell'Indice è presente un elenco dei contenuti con il numero di pagina corrispondente, a pagina 124.

D Diese Bedienungsanleitung bezieht sich nur auf dieses Produkt. Sie enthält wichtige Informationen zur Sicherheit und Verwendung des Gerätes. Sie sollten diese Anweisungen beachten, auch wenn Sie dieses Produkt für jemanden anderen kaufen. Bitte heben Sie diese Anleitung zum späteren Nachschlagen auf! Eine Liste mit dem Verpackungsinhalt finden Sie im Inhaltsverzeichnis mit der entsprechenden Seiten Nummer, auf Seite 164

NL Deze gebruiksaanwijzing hoort bij dit product. Het bevat belangrijke informatie over het instellen en gebruiken van het apparaat. U moet deze instructies opvolgen, zelfs als u dit artikel voor iemand anders koopt. Bewaar deze gebruiksaanwijzing voor toekomstig gebruik! Een overzicht van de inhoud is te vinden in de inhoudsopgave, met het corresponderende paginanummer, op pagina 205.

JAP これらの取扱説明書はこの製品に関するものです。これらの取扱説明書には、この製品のセットアップと使用に関する重要な情報が記載されています。この製品をご自身のためではなく、贈り物としてお買い上げいただく場合でも、この取扱説明書をよくご覧下さい。今後のために、この取扱説明書を保管しておくようにして下さい。記載内容については245ページの目次の各項目に対応するページをご覧下さい 。

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1. INTRODUCTION

Dear customer,

Thank you for making the excellent decision to purchase this RC Logger® product. You now have a high-quality product with a name that represents outstanding products.

This product complies with the applicable National and European standards and regulations. We kindly request the user to follow the operating instructions, to preserve this condition and to ensure safe operation! These operating instructions relate to this product. They contain important notices on commissioning and handling. Please take this into consideration when you pass the product on to third parties.

Please keep these instructions for further reference!

All company names and product designations contained herein are trademarks of the respective owners. All rights reserved.

We wish you a great deal of enjoyment with your new RC Logger® product!

Please download the latest version of the operating instructions from our website at www.rclogger.com. Navigate to the product page and open the "Downloads" tab. Click on "Operating instructions" to start the download.

2. INTENDED USE

The model “RC EYE One S” is a model helicopter solely designed for private use in the model making area and the operating times associated with this. This system is not suitable for other types of use. Any use other than the one described above damages the device. Moreover, this involves dangers such as short circuit, fire, electric shock, etc. Observe the safety information under all circumstances! The product must not become damp or wet. This product is not a toy and not suitable for children under 14 years of age.
For safety and approval purposes (CE), you must not rebuild and/or modify this product. If you use the product for purposes other than those described above, the product may be damaged. In addition, improper use can cause hazards such as short circuiting, fire, electric shock etc. Read the instructions carefully and keep them. Make this product available to third parties only together with its operating instructions.

3. DELIVERY CONTENT

> 1 x RC EYE One S
> 1 x LiPo battery (2 x 3.7 V 350 mAh)
> 1 x USB LiPo Charger
> 4 x Replacement Propeller (2 x black, 2 x red)
> 1 x Remote control (transmitter)
> 2 x AAA Battery
> Operating instructions

4. SAFETY INSTRUCTIONS

Read the operating instructions carefully and especially observe the safety information. If you do not follow the safety instructions and information on proper handling in this manual, we assume no liability for any resulting personal injury or damage to property. Such cases will invalidate the warranty/guarantee.

Persons / Product

> The device is not a toy. Keep it out of the reach of children and pets.
> Do not leave packaging material lying around carelessly. These may become dangerous playing material for children.
> The product must not become damp or wet. As delicate control electronics are used in the “RC EYE One S” which are also sensitive to temperature fluctuations and are optimised for a particular temperature range, operation below 0°C is to be avoided.
> Do not place the product under any mechanical stress.
> If it is no longer possible to operate the product safely, take it out of operation and protect it from any accidental use. Safe operation can no longer be guaranteed if the product:
  - is visibly damaged,
  - is no longer working properly,
  - has been stored for extended periods in poor ambient conditions or

- has been subjected to any serious transport-related stresses.

> Handle the product carefully. Jolts, impacts or a fall even from a low height can damage the product.

Before commissioning

> Regularly check the functional reliability of your model and the remote control system. Watch out for any visible damage such as defective plug connections or damaged cables.
> All moving parts of the model must run smoothly but should not have any play in their bearings.
> Check before each operation the correct and secure position of the propellers.
> The flight battery required for operation must be charged according to these operating instructions.
> Ensure sufficient residual capacity (battery tester) of the batteries inserted in the transmitter. If the batteries are empty, always replace the complete set, never individual cells only.
> Always switch on the remote control (transmitter) first. Please ensure that when you turn on the transmitter the throttle control is set to the lowest setting (motors off)! Then the flight battery of the model may be connected. Otherwise, unexpected reactions of the model may occur and the rotors might run unintentionally!
> When the rotors are running, make sure that neither objects nor body parts are in the rotating and suction area of the propellers.

During Operation

> Do not take any risks when operating the model! Your own safety and that of your environment is solely down to you being responsible when dealing with the model.
> Improper operation may cause serious injury and property damage! Therefore make sure to keep a sufficiently safe distance to persons, animals or objects during operation.
> Select an appropriate location for the operation of your model.
> Fly your model only if your ability to respond is unrestricted. The influence of tiredness, alcohol or medication can cause incorrect responses.
> Do not direct your model towards spectators or towards yourself.
> Motor, electronics and flight battery may heat up during operation of the model. For this reason, wait for 5 to 10 minutes before recharging or replacing the flight battery.
> Never switch off the remote control (transmitter) while the model is in use. After landing, always disconnect the flight battery first. Only then may the remote control be switched off.
> In case of a defect or a malfunction, remove the problem before using the model again.
> Never expose your model or the remote control to direct sunlight or excessive heat for an extended period of time.
> In the case of a severe crash (e.g. from a high altitude) the electric gyro sensors can be damaged and/or misadjusted. Therefore, full functionality must be tested before flying again without fail!
> In the event of a crash, the throttle should be immediately reduced to zero. Rotating propellers may be damaged if they come into contact with obstacles. Before flying again, these should be checked for possible tears or breakages!

> To avoid damage to the “RC EYE One S” helicopter through crashing due to low voltage of the rechargeable battery through total discharge, we recommend that you respect the low voltage light signals without fail.

Batteries

> Correct polarity must be observed while inserting the batteries.
> Batteries should be removed from the device if it is not used for a long period of time to avoid damage through leaking. Leaking or damaged batteries might cause acid burns when in contact with skin, therefore use suitable protective gloves to handle corrupted batteries.
> Batteries must be kept out of reach of children. Do not leave the battery lying around, as there is risk, that children or pets swallow it.
> All the batteries should be replaced at the same time. Mixing old and new batteries in the device can lead to battery leakage and device damage.
> Batteries must not be dismantled, short-circuited or thrown into fire. Never recharge non-rechargeable batteries. There is a risk of explosion!
> Never mix batteries and rechargeable batteries!

LiPo batteries

After the flight, the LiPo flight battery must be disconnected from the electronics system of the “RC EYE One S”. Do not leave the LiPo flight battery connected to the helicopter electronic system when you do not use it (e.g. during transport or storage). Otherwise **the LiPo flight battery may be fully discharged. This would destroy it and render it** unusable! There is also a danger of malfunction due to interferences. The rotors could start up inadvertently and cause damage or injury.

There is the risk of fire or explosion by the rechargeable battery. Rechargeable LiPo batteries in particular are very susceptible to moisture due to the chemicals they **contain! Do not expose the charger or LiPo flight battery to high/low temperatures** or to direct solar radiation. When handling LiPo batteries, observe the special safety information of the battery manufacturer!

> Never charge the LiPo flight battery immediately after use. Always leave the LiPo flight battery to cool off first (at least 5-10 minutes).
> Only use the included USB LiPo charger or the “RC EYE OneStation” (89041RC) to charge the flight battery.
> Only charge intact and undamaged batteries. If the external insulation of the rechargeable battery is damaged or if the rechargeable battery is deformed or bloated, it must not be charged. In this case, there is immediate danger of fire and explosion!

- > Never damage the exterior of a LiPo flight battery. Never cut the covering foil. Never stab any LiPo flight batteries with pointed objects. There is a risk of fire and explosion!
- > Remove the LiPo flight battery that is to be charged from the model and place it on a fire-proof support (e.g. a plate). Keep a distance to flammable objects (use USB extension cable if required).
- > As the charger and the rechargeable LiPo flight battery both heat up during the charging procedure, it is necessary to ensure sufficient ventilation. Never cover the charger or the LiPo flight battery! Of course, this also applies for all other chargers and rechargeable batteries.
- > Never leave LiPo batteries unattended while charging them.
- > Disconnect the LiPo flight battery from the charger when it is fully charged.
- > Chargers may only be operated in dry rooms. The charger and the LiPo flight battery must not get damp or wet.

Miscellaneous

- > Consult an expert when in doubt about operation, safety or connection of the device.
- > Maintenance, modifications and repairs are to be performed exclusively by an expert or at a qualified shop.
- > If you have questions which remain unanswered by these operating instructions, contact our technical support service or other technical personnel.

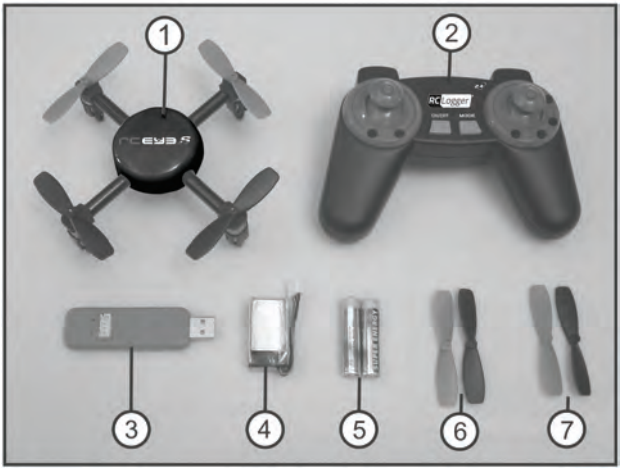
5. PRODUCT DESCRIPTION

The electric helicopter model “RC EYE One S” is a pre-assembled helicopter-like flight model with four rotors. In the professional field, such flight devices are already used for the most diverse of tasks. The latest micro processor controlled electronics with position control and acceleration sensor stabilise the “RC EYE One S”.
High-quality direct current engines in connection with a specially developed control permit a long, powerful flight operation. The new control and electronic self-stabilisation lead to great flight properties. Different flying programmes ensure that both beginners and experts will be able to have fun.

The flight model can be operated both indoors and outdoors during calm weather conditions. The in-built electronic controls can balance out small undesired changes to the flight altitude, but cannot remove them completely. As the “RC EYE One S” weighs less than 100 grams, it reacts sensitively to wind or draughts.

Three different flight modes (beginner, sports, expert) may be selected. The model therefore is designed for beginners as well as experienced model helicopter pilots. Tap the model’s full potential by regular practice.

6. OPERATING ELEMENTS



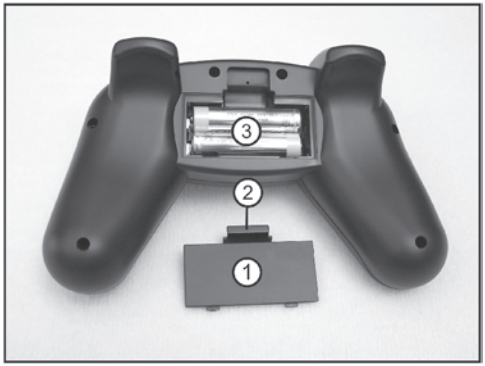
1. Pre-assembled “RC EYE One S”
2. Remote Control
3. USB LiPo Charger
4. 1 x LiPo battery (2 x 3.7 V 350 mAh)
5. 2 x AAA Battery
6. Two replacement propellers, counter-clockwise
7. Two replacement propellers, clockwise

The spare part list can be found on our website www.rclogger.com in the accessories section for the respective product.

7. START PREPARATIONS

Inserting batteries in the transmitter

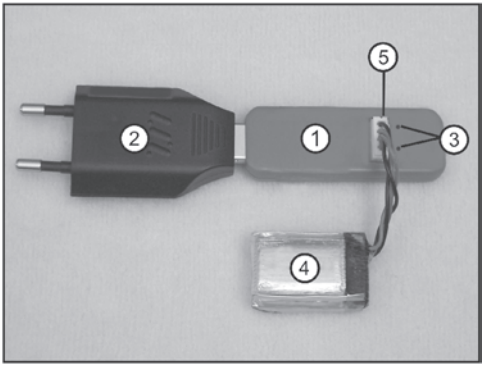
1. Remove the battery compartment lid (1) of the transmitter. You need to push the lever (2) down slightly for this.
2. Insert two micro/AAA size batteries with the correct polarity (3). Observe the corresponding icons in the battery compartment. Insert the battery compartment lid again.



Operation of the transmitter with rechargeable batteries is not recommended because of the lower cell voltage (battery = 1.5 V, rechargeable battery = 1.2 V) and the self-discharge of rechargeable batteries. Quick feedback of the transmitter on low charge status of the transmitter power supply would result.
Since the transmitter requires very little power, batteries will keep much longer. We recommend the use of high-quality alkaline batteries.

Charging the flight battery

Do not use any computer or notebook USB port to connect power to the USB charger **because it may be damaged. USB ports also usually are limited to a current of max.** 500 mA. Only use the battery included or the supplementary battery from 89029RC.



1. Use a suitable plug-in mains adapter or a cigarette lighter adapter with one USB output socket each (output 5 V/DC, at least 1.5 A).
2. Connect the USB LiPo charger included (1) to a USB mains adapter (2) or a cigarette lights USB adapter with its USB plug. The plug-in charger (or adapter) must have a current resilience of at least 1.5 A!
3. Then connect the plug-in charger to a mains socket. The LEDs (3) in the charger flash.
4. Connect the flight battery (4) to the charger socket (5) in the correct polarity. Observe the plug contour for this. If the battery is not defective (high-Ohmic/interrupted) and mains supply is warranted, charging commences. This is indicated by the two red LEDs (3 = charge indicator).
   The following LED displays are possible:

The red LED is permanently lit:	The charging process is running
The red LED flashes:	Defective battery and/or bad contact of the plugs
The red LED goes off:	Battery is fully charged or no rechargeable battery or a fully charged battery is connected

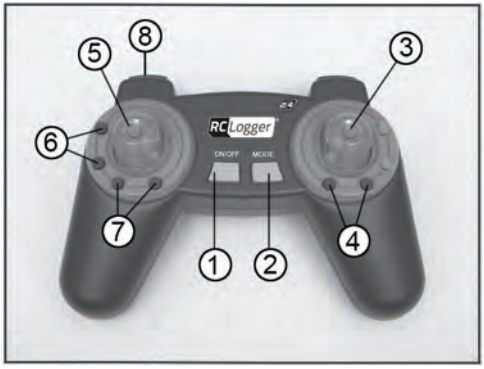
Individual battery cells of a battery pack are usually different. The USB charger has two separate chargers integrated. Therefore, it is possible that a battery cell is already charged (LED off) and the other battery cell is still being charged (LED on). Wait until both LEDs have gone out before unplugging the battery.

The plug at the flight battery must be connected in a special manner. Therefore, the flight battery cannot be charged with conventional LiPo chargers. Therefore, use the included **USB charger from the delivery only to charge the flight battery.**

8. OPERATING ELEMENTS OF THE TRANSMITTER AND RC EYE ONE S

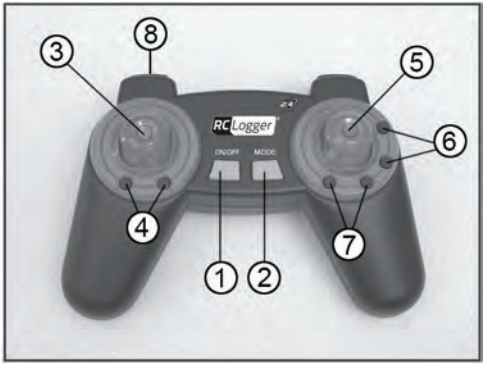
88005RC (mode 1) Transmitter

1. Button on/off
2. Button MODE
3. Control stick right (throttle and aileron)
4. Aileron trimming
5. Control stick left (elevator and rudder)
6. Elevator trimming
7. Rudder trimming
8. ACRO button



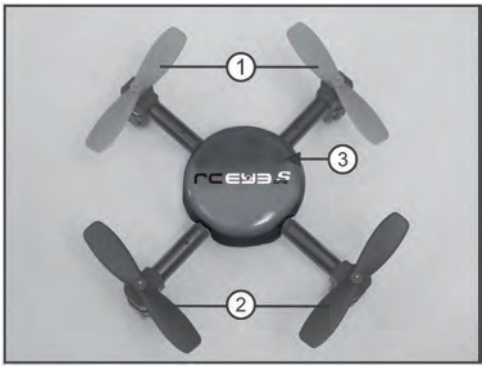
88006RC (mode 2) Transmitter

1. Button on/off
2. Button MODE
3. Control stick left (throttle and rudder)
4. Rudder trimming
5. Control stick right (aileron and elevator)
6. Elevator trimming
7. Aileron trimming
8. ACRO button



Model Top

1. Propellers front (red propellers)
2. Propellers rear (black propellers)
3. LED for status display



Model Bottom

1. Bind button
2. Hook-and-loop tape for battery fastening
3. Connection socket for flight battery
4. Battery holder

9. SAFETY INSTALLATION

The "RC EYE One S" has a range of safety devices in the transmitter and model which protect the model from damage and/or should reduce possible damage to a minimum. The protection mechanisms are identified by LED indicators (model) or an acoustic warning signal (transmitter).

Transmitter

> The charge condition of the inserted batteries is inspected every time the transmitter is switched on. If the charge condition is too low, the transmitter switches off immediately again. The transmitter signals this by three subsequent warning sounds.

> The charge condition is continually inspected while the transmitter is in operation. If the charge condition drops below a certain value, the transmitter also signals this with a triple warning sound. In this case, stop flying at once and replace the batteries of the transmitter.

> The transmitter also has a deactivation automatic integrated. If no control element is operated for more than five minutes, the transmitter switches off automatically.

> TX with fixed timer function:

Alarm I : 4 min 1 x beep [3 sec pause], 1 x beep [3 sec pause], 1 x beep [3 sec pause], 1 x beep
Alarm II : 5 min 2 x beep [3 sec pause], 2 x beep [3 sec pause], 2 x beep [3 sec pause], 2 x beep
Alarm III : 6 min 3 x beep [3 sec pause], 3 x beep [3 sec pause], 3 x beep [3 sec pause], 3 x beep
Alarm IV : 7 min 4 x beep [3 sec pause], 4 x beep [3 sec pause], 4 x beep [3 sec pause], 4 x beep

Model

- The LED in the “RC EYE One S” shows if the transmitter is “bound” to the model and reception of the control signal is proper. This is displayed by a flashing LED. The LED flashes in the colour of the flight mode that is set.
- If there is any interference with reception, the LED is continually lit in the colour of the set flight mode. If reception interferences are permanently present in flight operation, the motors are switched off after approx. five seconds (emergency landing initiated).
- Short-term reception interferences are ignored by the “RC EYE One S” by the last control signals of the transmitter retaining the last flight condition in connection with the integrated sensors.
- The “RC EYE One S” constantly monitors the voltage of the connected batteries. If it falls below a critical level over a particular period of time, it will be indicated by an orange flashing LED.
- If the voltage undercut is permanently below a certain value, the LED is lit permanently orange. In this case, an emergency landing is initiated after a short period and the motors and LED are deactivated.

The LED in the “RC EYE One S” flashes either green (beginners), orange (sports) or red (expert), depending on the flight mode set. At short-term undercut of the undervoltage display, the LED flashes green/orange in beginner’s mode.

In sports mode, the LED flashes irregularly at undervoltage recognition. If the voltage undercut is present permanently, the LED is lit orange permanently independently of the flight mode set.

If the “RC EYE One S” is connected to a non-fully charged battery, this can also lead to undervoltage detection and the motors do not start. In this case, fully charge the flight battery first and then try the take-off once again.

As another safety measure, the motors are switched off once one or several propellers are blocked. If this is the case, the LED in the model flashes red at a quick rhythm. To reset this condition in the electronics, disconnect the flight battery and connect it again.

10. INFORMATION FOR FIRST TAKE-OFF

For a simpler and consistent explanation of steering, classic terminology is used here as well. This comes from flight language and is widely used.
Direction descriptions are always to be interpreted from the perspective of a "virtual" pilot in the model. The two red propellers are considered direction indicators. They mean "front".

88005RC (mode 1) hover flight

Hovering denotes a flight status in which the "RC EYE One S" neither rises nor falls so that the upwards directed uplift force is equal to the downwards directed weight. This is achieved about at the central throttle position. Push the throttle lever (figure 1a) forward to increase the motor speed and lift up the RC EYE One S. Pulling the throttle lever back causes the "RC EYE One S" to drop. Pulling the throttle lever back all the way shuts off the engines.

During flight close above the ground and during take-off, turbulence and air flow can be experienced which may affect the "RC EYE One S". A quicker response to the controlling motions and slight swerving of the "RC EYE One S" forwards, backwards or to the side may result from this. This so-called ground effect is no longer present starting at a flight altitude of about 50 cm.

Figure 1a

Figure 1b

88005RC (mode 1) rudder

Rudder denotes the rotation of the “RC EYE One S” around the rudder axis (vertical axis). This movement either occurs unintentionally due to the speed torque of the propellers or intentionally as a flight direction change. For the “RC EYE One S”, this movement is not controlled by a tail propeller, but through speed variation of the individual propellers to each other. The two red propellers show “front”.
If you move the left control lever (figure 2a) to the left, the “RC EYE One S” will turn to the left. If you move the control lever to the right, the “RC EYE One S” will turn to the right.

If the RC EYE One S rotates slowly around its own axis in hover flight (direction of the white arrow), the model must be trimmed with the black trimming button (also in the counter-direction). Push the trimming button until the RC EYE One S no longer rotates around its own axis.

Figure 2a

Figure 2b

88005RC (mode 1) elevator

Elevator denotes the movement around the cross axis which can be compared to the nodding of a head. Through this, the “RC EYE One S” gains flight speed forwards or backwards or decelerates. The two red propellers show “front”.

If you move the left control lever (figure 3a) to the front, the “RC EYE One S” will float forwards as a whole. If you move the control lever to the rear, the “RC EYE One S” will float backwards. If the “RC EYE One S” turns slowly to the rear in hover flight (direction of the white arrow), the model must be trimmed with the black trimming button (also in the counter-direction). Push the trimming button until the “RC EYE One S” no longer turns away to the rear.

Figure 3a

Figure 3b

88005RC (mode 1) aileron

Aileron denotes the movement around the centre line which can be compared to the sideways rolling of a ball (or the sideways crawl of a crab). In this way, through lifting one side the “RC EYE One S” moves independent of its forward direction to the side. The two red propellers show “front”.
If you move the right control lever (figure 4a) to the left, the “RC EYE One S” will float to the left as a whole. If you move the control lever to the right, the “RC EYE One S” will float to the right. If the “RC EYE One S” turns slowly to the left in hover flight (direction of the white arrow), the model must be trimmed with the black trimming button (also in the counter-direction). Push the trimming button until the “RC EYE One S” no longer drifts to the left.

Figure 4a

Figure 4b

88006RC (mode 2) hover flight

Hovering denotes a flight status in which the “RC EYE One S” neither rises nor falls so that the upwards directed uplift force is equal to the downwards directed weight. This is achieved about at the central throttle position. Push the throttle lever (figure 5a) forward to increase the motor speed and lift up the RC EYE One S. Pulling the throttle lever back causes the “RC EYE One S” to drop. Pulling the throttle lever back all the way shuts off the engines.

During flight close above the ground and during take-off, turbulence and air flow can be experienced which may affect the “RC EYE One S”. A quicker response to the controlling motions and slight swerving of the “RC EYE One S” forwards, backwards or to the side may result from this. This so-called ground effect is no longer present starting at a flight altitude of about 50 cm.

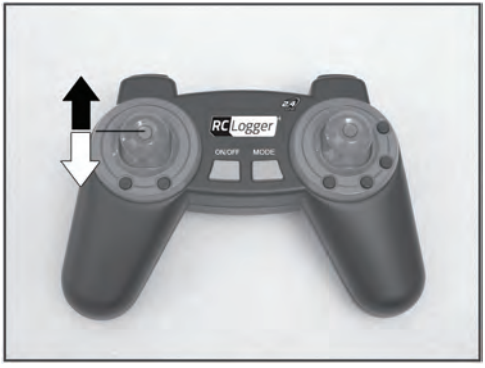


Figure 5a

Figure 5b

88006RC (mode 2) rudder

Rudder denotes the rotation of the “RC EYE One S” around the rudder axis (vertical axis). This movement either occurs unintentionally due to the speed torque of the propellers or intentionally as a flight direction change. For the “RC EYE One S”, this movement is not controlled by a tail propeller, but through speed variation of the individual propellers to each other. The two red propellers show “front”.

If you move the left control lever (figure 6a) to the left, the “RC EYE One S” will turn to the left. If you move the control lever to the right, the “RC EYE One S” will turn to the right. If the “RC EYE One S” turns slowly to the left in hover flight (direction of the white arrow), the model must be trimmed with the black trimming button (also in the counter-direction). Push the trimming button until the “RC EYE One S” no longer turns away to the left.

Figure 6a

Figure 6b

88006RC (mode 2) elevator

Elevator denotes the movement around the cross axis which can be compared to the nodding of a head. Through this, the “RC EYE One S” gains flight speed forwards or backwards or decelerates. The two red propellers show “front”.

If you move the right control lever (figure 7a) to the front, the “RC EYE One S” will float forwards as a whole. If you move the control lever to the rear, the “RC EYE One S” will float backwards. If the “RC EYE One S” turns slowly to the rear in hover flight (direction of the white arrow), the model must be trimmed with the black trimming button (also in the counter-direction). Push the trimming button until the “RC EYE One S” no longer turns away to the rear.

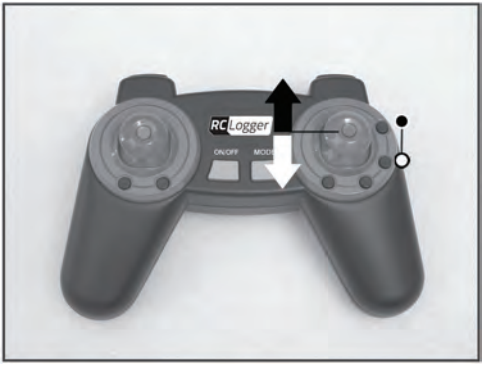


Figure 7a

Figure 7b

88006RC (mode 2) aileron

Aileron denotes the movement around the centre line which can be compared to the sideways rolling of a ball (or the sideways crawl of a crab). In this way, through lifting one side the “RC EYE One S” moves independent of its forward direction to the side. The two red propellers show “front”.

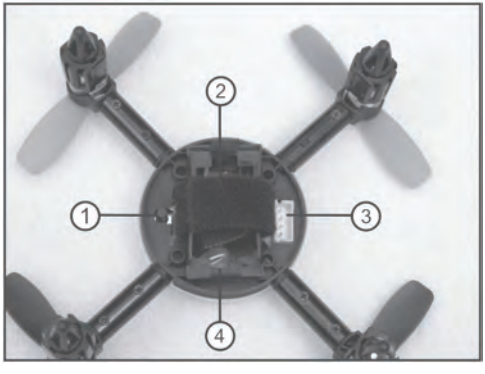
If you move the right control lever (figure 8a) to the left, the “RC EYE One S” will float to the left as a whole. If you move the control lever to the right, the “RC EYE One S” will float to the right. If the “RC EYE One S” turns slowly to the left in hover flight (direction of the white arrow), the model must be trimmed with the black trimming button (also in the counter-direction). Push the trimming button until the “RC EYE One S” no longer drifts to the left.

Figure 8a

Figure 8b

Flight Mode

The “RC EYE One S” permits you to choose between three different flight modes depending on your experience. The button (1) for this is at the bottom of the RC EYE One S.



Switching between flight modes

1. Install the flight battery into your RC EYE One S and connect the battery. The RC EYE's status LED should go solid green.
2. Make sure that the throttle stick is at full zero. Turn on your TX. The RC EYE's status LED should start to flash either, green, orange or red, depending on its last known flight mode. To change the flight mode press the MODE button twice until you hear a beep sound. One beep indicates that you are in BEGINNER mode (green flashing LED), two beeps indicate that you are in SPORT mode (orange flashing LED) and 3 beeps indicate that you are in EXPERT mode (red flashing LED).

Note: You can only change flight modes while not in flight! The unit will retain its last known flight mode.

> LED flashes green = beginner's mode = strictly limited control commands
> LED flashes orange = sports mode = slightly limited control commands
> LED flashes red = expert mode = no limitation to control commands

In beginner mode, the control commands are limited to permit you learning how to fly the "RC EYE One S" very quickly and easily. This flight mode is recommended for pilots who have no or only very little flight experience with helicopters or QuadroCopters yet. The beginner's mode is the basic configuration after each battery change.

The Sports mode is recommended to pilots who have already collected some experience with other helicopter or QuadroCopter models. In this mode, the model is much more agile in its control conduct than in beginner's mode.

No control signals are limited in expert mode. The stabilisation sensors are clearly reduced in its effect. The "RC EYE One S" flies like a conventional helicopter or QuadroCopter in this mode. The control properties are accordingly agile in this. This mode is recommended only to pilots who have already collected a lot of experience with controlling helicopter or QuadroCopter models.

Acrobatic flight mode

Make sure you have enough space for flipping. The "RC EYE One S" is capable of flipping indoors, but when you get first started with performing flips, make sure you have sufficient open space for practicing and developing your skill! An open area of minimum 5x5 meters is recommended. Do not attempt to perform acrobatic maneuvers if you have not fully mastered the SPORT and EXPERT mode as you may damage your **unit, hurt yourself or others. You have been warned! Consult an expert RC pilot to assist you before you attempt your first acrobatic maneuver.**

Before start flipping, it is required to test if all 4 motors are working perfectly. To do so, push throttle to max while hovering. The copter should ascend straight upwards without leaning to any direction and without turning in its rudder axis. If the copter does not ascend straight upwards, change the motor (or only the propeller) where the copter is leaning to while at full throttle. Perform this step repeatedly until the copter climbs straight upwards. To prevent injury and property damage always re-perform this test after a crash or after a part replacement.

Product warranty does not include replacement of parts, compensation for property damage of any kind, compensation for personal injury or injury to others resulting from **any flight maneuver where recommended safety guidelines have not been followed by** the pilot. You, the pilot are responsible to inspect your unit for perfect condition and **flight readiness before you attempt any kind of flight, regardless whether acrobatic flight maneuvers or casual flight.**

It is strongly recommended that you perform a full visual inspection each time before **you attempt a flight and each time you have encountered a crash, regardless if minor or** major crash. Observe the condition of each motor, its motor shaft, its wire connections and its propeller position and propeller condition. Always replace defective parts **immediately. If you are unsure about your products condition consult an experienced** RC pilot or contact customer support at contact@rclogger.com immediately. Do not **attempt any further flight until you have confirmed your products condition to be fine and fit for flight.**

You have been warned and you have accepted the warnings prior to using the product.

Activating acrobatic flight mode

To enable the acrobatic mode press and hold the 'ACRO button' while in flight.

Performing flip or roll

While pressing and holding the left front button on TX ('ACRO button') acrobatic mode is activated in SPORT and EXPERT flight mode only. Status LED flashes fast while acrobatic mode is activated. After releasing 'ACRO button' acrobatic mode is disabled again. When acrobatic mode is active, user can select flip direction by pushing the nick/roll stick to any max direction. Combined flips (Combined 'Nick' and 'Roll') are not allowed.

How to get started performing your first acrobatic flight maneuver

> SPORT mode flip recommendation:

While hovering in about 5 meters height push and hold 'ACRO button'. Now push the throttle stick to maximum and after approx. 1 second, push the aileron/elevator stick to the desired direction and release it again immediately. Hold throttle at maximum until the copter is stabilized and starts ascending again. 'ACRO button' can be released as soon as the copter starts flipping. The more power you are using the less height the copter will lose. In SPORT mode the copter will decrease power by itself while the copter is upside down.

> EXPERT mode flip recommendation:

While hovering in about 5 meters heights push and hold 'ACRO button'. Accelerate the copter upwards by pushing throttle to max. Start flip by pushing aileron/elevator stick to any maximum direction and reduce throttle to approx 25%. As soon as the copter is back in upright position increase throttle to help the copter to stabilize again. Compared to the SPORT mode motor power will only be changed by the pilots RC control inputs and not by the copter itself.

Flip it and have fun!

General Handling

A "RC EYE One S" is essentially equipped with the handling of a normal helicopter. The differences, however, are in the detail. For helicopters, the torque balance is stabilised by special gyros (in the rudder function). For this, there are two different systems: "Normal gyros" or gyros with the "heading lock" function.

Normal gyros stabilise (cushion) the tail propeller against tipping motions which are caused by the pilots (driving speed and/or elevator changes and/or external influences (e.g. side wind). A gyro with "heading lock" function has a holding action against these tipping motions.
Both systems respond after a control command – e.g. "rudder to the left" and subsequent neutral positioning with the immediate stopping of the tipping motion.

In your "RC EYE One S", unlike in standard helicopters, there are six gyros installed for the rudder, elevator and aileron functions. The installed gyros are – in comparison with standard gyros – neither to be described as normal gyros nor with "heading lock" function.

The gyros in the "RC EYE One S" are linked together so that after the end of a control command the "RC EYE One S" always attempts to reach neutral position (hovering flight). Of course, how well this works depends on the space available, the flight speed and/or the prevailing flight condition, the trim values of the "RC EYE One S" and external flight conditions e.g. wind.
This control logic is deactivated in expert mode. The position and flight control of the "RC EYE One S" corresponds to the last control command and is not neutralised.

11. THE FIRST TAKE-OFF

The operation and handling of remote controlled flight models must be learned! If you have never steered such a model, start especially carefully and get used to the reactions **of the model to the remote control commands first. Do be patient! Use the information** from chapter INFORMATION FOR FIRST TAKE-OFF as reference.

Do not take any risks when operating the product! Your own safety and that of your environment depends completely on your responsible use of the model.

1. Switch off the remote control transmitter by pushing the on/off button. The transmitter confirms this with a double sound.
2. Put the throttle lever all the way back (engines out).
3. Resets the trims at the transmitter to “0”. For this, push the two associated trim buttons for rudder, elevator and aileron (also see the figure in OPERATING ELEMENTS OF THE TRANSMITTER AND RC EYE One S, operating elements 4 and 6 of 88005RC (mode 1) Transmitter / operating elements 4, 6 and 7 of 88006RC (mode 2) Transmitter) in sequence until neutralisation of the trimming is confirmed with a double sound signal.
4. Then connect the flight battery. For this, push the battery plug into the socket of the “RC EYE One S” in the correct polarity (also see the figure in OPERATING ELEMENTS OF THE TRANSMITTER AND RC EYE One S, Model Bottom, element 3; observe plug contours). The LED in the model starts flashing green after a short period at a correct reception signal (starter mode).
5. Place the flight battery into the intended holder of the “RC EYE One S” and secure it with hook-and-loop tape (also see the figure in OPERATING ELEMENTS OF THE TRANSMITTER AND RC EYE One S, Model Bottom, element 2 and 4).
6. Push the button mode (figure 6, item 1) to select the desired mode.
   - LED flashes green = beginner’s mode (basic configuration after each battery change)
   - LED flashes orange = sports mode
   - LED flashes red = expert mode
7. Place the model on a level surface as smooth as possible (e.g. stone floor). A carpet is less suitable because the landing legs may get caught in the carpet easily.
8. Start the engines by carefully pushing the throttle lever forwards. Ideally, now slowly increase the speed of the propellers (the throttle) of the “RC EYE One S” until you can see a slight increase of altitude. Test the aileron and elevator directions just before the “RC EYE One S” starts to hover to ensure that the transmitter is correctly set. Generally avoid any fast and big controlling motions. Also watch closely to see whether and in which direction the “RC EYE One S” moves. By using trimming on the remote control, you can prevent undesired movements.

Important! Never take off with a badly trimmed flight device.

9. Then increase the throttle until the “RC EYE One S” is at least 50 cm above the ground. At this height, you have passed the so-called ground effect and the “RC EYE One S” is more stable in its flight position and can be controlled more easily. Carefully try to correct a gentle drift with the trim levers for rudder, elevator or aileron. Once the “RC EYE One S” is high enough in the sky, decrease the throttle until the “RC EYE One S” hovers. Also observe the notes in chapter INFORMATION FOR FIRST TAKE-OFF.
10. Now you have managed the critical part and can familiarise yourself with the “RC EYE One S” by slow and careful throttle controlling motions.
11. To land the “RC EYE One S” again, decrease the throttle slightly until the “RC EYE One S” gravitates to the ground. A somewhat solid touchdown on the ground is no problem and should not be corrected with jerky throttle movements. Try to touch down where possible in vertical position (“helicopter landing”). Avoid landing with high horizontal speeds (“airplane landing”).
12. After landing, turn off the motors (pull back the throttle lever).
13. Practice this starting procedure a few times to get a feel for the “RC EYE One S”. Once you are reasonably sure, you can begin to steer the flight direction with rudder, elevator and aileron. Always steer slowly and carefully and practice the processes a little before trying a new flight manoeuvre. The first flights should not last longer than 30 to 60 seconds each.
14. When you have familiarised yourself a little with the model’s flight properties, you may perform additional exercises. Start with simple flight manoeuvres like a flying a meter forwards/back (nod function). Then practice hovering to the left/right (aileron function). When you have the practice you need, start flying circles and figure eights.
15. If you want to terminate flying, the engine must be switched off after landing. Then disconnect the battery from the model. Only then must the transmitter be turned off. With the transmitter on, a single signal sound will be emitted.

12. BINDING 2.4 GHZ TX AND RX

Before you start binding your TX and RX make sure that you have installed the AAA batteries into the 2.4 GHz transmitter.

1. Install flight battery into your RC EYE One S and connect the battery. The RC EYE's status LED should go solid green.
2. Press and hold the 'bind button' of the RC EYE One S located next to the battery tray until the status LED starts to flash red/green.
3. Make sure that the throttle stick is at full zero. Turn the transmitter on (two beeps), turn it off (one beep), press and hold the ON/OFF button again until you hear a beep sound every 3 seconds. You are now in binding mode.
4. Wait until the RC EYE's status LED flashes in the corresponding color related to the selected flight mode indicating that the binding process has been completed. You need to perform step 1. – 4. within a given time, otherwise binding will not be successful.
5. Note: The previously known flight mode selection button (now referred to as 'bind button') is no longer used to toggle between different flight modes. It is now only used to enter the binding mode!

13. 2.4 GHz FREQUENCY HOPPING – "FHSS"

The RC EYE One S transmitter and receiver are based on 2.4 GHz FHSS technology. This modulation technique is repeatedly switching frequencies during radio transmission with the objective of minimizing the unauthorized interception and/or jamming other transmitting or receiving devices such as cellphones, wireless networks, remote controlled toys, virtually any 2.4 GHz operated product. This technology is commonly referred to as "frequency hopping spread spectrum" or simply "FHSS".

As a result, users are not required to select a specific radio channel, since this is done automatically via FHSS. Thus users may operate this product within a geographical area side by side with additional remote controlled products and other transmitting or receiving devices.

14. MAINTENANCE, CARE AND REPAIR

Regular Cleaning

The "RC EYE One S" is a very simple but nonetheless well-designed flying device. There are no mechanical parts that need to be lubricated or require special maintenance. However, after each flight operation you should clean the "RC EYE One S" of possible dirt (wool strings, dust, etc.).

For cleaning, use a dry or slightly damp cloth and avoid contact between water and the electronics, rechargeable battery and motors.

Do not fly without covering the electronics. Please ensure that no moisture enters the inner central piece. Never fly when it is raining!

Resetting the gyro flight leveling sensor

In case your "RC EYE One S" appears to be drifting in one direction, noticeable especially in beginner mode, you may need to reset the sensor calibration. The drift in one direction after a short period of time requiring adjusting the trim to regain stable flight where the "RC EYE One S"may start to drift again after another short period of time may be related to the following two reasons:

1. A motor shaft might be slightly bent or a propeller is defective resulting in vibrations. Either replacing the motor(s) or install a complete new set of propellers may solve this issue. Crashing the "RC EYE One S", or exposing it to mechanical stress during transportation typically causes these phenomena.
2. The onboard sensor has lost its factory calibration. Typically this is caused by a hard hit, such as a crash or repeated crashes, or exposure to high temperature. It could also be related to transport issues.

Mode 1

1. Place the "RC EYE One S" onto an as flat as possible level surface.
2. Power on the transmitter, while the flight battery is connected.
3. Move the throttle/aileron stick to bottom right position, and move the elevator/rudder stick fully up vertically.
4. Hold the sticks at their positions until the transmitter sounds an acoustic signal and the "RC EYE One S" status LED turns solid.
5. The calibration has been completed, no drift should be observed. In case the "RC EYE One S" still drifts, the sensor may be defective or vibrations still remain. Please continue to replace all 4 motors until level flight can be performed.

Mode 2

1. Place the "RC EYE One S" onto an as flat as possible level surface.
2. Power on the transmitter, while the flight battery is connected.
3. Keep throttle and rudder stick at zero and move the aileron / elevator (nick, roll) to full top right position.
4. Hold the sticks at this position until the transmitter sounds an acoustic signal and the "RC EYE One S" status LED turns solid.
5. The calibration has been completed, no drift should be observed. In case the "RC EYE One S" still drifts the sensor may be defective or vibrations still remain. Please continue to replace all 4 motors until level flight can be performed.

What to do if you experienced your first crash

An easy way to maintain the products perfect condition is through visually inspecting the "RC EYE One S" even after an apparently just slight crash. One of the most common causes is a propeller where the tracking is out of its alignment. The likely cause for this is a bent motor shaft. Even a slightly bent shaft may have serious consequences if not rectified quickly.

You can either replace the complete motor, or, what works in almost all cases, use a pair of flat pliers and carefully bend the main shaft back into position. Keep in mind; if you hit an object at high propeller rotation speed, it is highly likely that a shaft is bent. This is normal and requires your immediate attention!

You can easily visually check if a propeller's tracking is out of alignment. Hover your RC EYE One S around 2 meters away from yourself at level with your eyes and observe that you can only "see" one straight rotating line per propeller. If one of the propellers appears to be visible "twice" (two lines), the tracking must be fixed immediately!

What happens if a tracking misalignment is not fixed? Well, obviously one motor will have to work much harder, draws much more power and eventually gets hot and, even best efforts have been made during product design to prevent most such cases, the flight controller may burn at some point later.

It is strongly suggested to always inspect for damage.

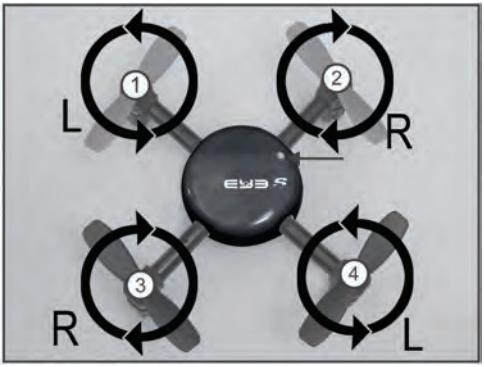
Replacing the propellers

Attention!

Observe the rotating direction of the respective motor and the choice of the corresponding propeller without fail. If these are incorrectly chosen, the model will **not be able to fly and will act in an erratic way when next started! Loss of guarantee/** warranty! The rotating direction is marked on the propellers ("L" or "R"). The mark "L" or "R" points up. The propellers marked "L" must be installed on the motors that turn leftwards (counter clockwise). The propellers marked "R" must be installed on the motors that turn rightwards (clockwise).

If a propeller is damaged in a crash or other action, replace it immediately. This also applies if there are any fine tears or grazing in the propeller. Due to the high speed, material parts could come loose if the propellers are damaged and this could lead to damage to or endangerment of the environment.

1. To replace a propeller, pull the damaged propeller from the motor shaft and replace it with a new one. The propellers must not be pushed completely onto the motor shaft. Keep about 0.5 mm distance from the motor housing.



2. For reference, put the “RC EYE One S” onto your work surface with the model LED (see arrow) pointing to the front right.
3. The front motors (motor 1 and 2) are at the “front” for this model and must have red propellers. Motor 1 turns counter clockwise, motor 2 turns clockwise.
4. The rear motors (motor 3 and 4) must have black propellers. Motor 3 turns clockwise, motor 4 turns counter clockwise.
5. Do not bend the motor shafts. Bent motor shafts (e.g. from crashes) influence the flight properties negatively due to the vibration that results and the irritation to the sensors. Motors with bent motor shaft must be replaced.

Replacing a motor

1. Remove the defective motor by removing the screw from the motor boom. Pull the motor holder from the boom. Make sure to use a proper precision screwdriver. Do not damage the screw-head!
2. Unplug the motor cable from the motor.
3. Replace the defective motor and re-install the motor into the boom. Secure back the fixing screw. Do not tighten the screw too much as you may damage the motor mount.

15. DISPOSAL

General

In order to preserve, protect and improve the quality of environment, protect human health and utilise natural resources prudently and rationally, the user should return unserviceable product to relevant facilities in accordance with statutory regulations.

The crossed-out wheeled bin indicates the product needs to be disposed separately and not as municipal waste.

Batteries / rechargeable batteries

The user is legally obliged *(battery regulation)* to return used batteries and rechargeable batteries. *Disposing used batteries in the household waste is prohibited!* Batteries/ rechargeable batteries containing hazardous substances are marked with the crossed-out wheeled bin. The symbol indicates that the product is forbidden to be disposed via the domestic refuse. The chemical symbols for the respective hazardous substances are *Cd* = Cadmium, *Hg* = Mercury, *Pb* = Lead.

You can return used batteries/ rechargeable batteries free of charge to any collecting point of your local authority, our stores or where batteries/ rechargeable batteries are sold.

Consequently you comply with your legal obligations and contribute to environmental protection!

16. SPARE PARTS

The spare part list can be found on our website www.rclogger.com in the Accessories section for the respective product.

LiPo Battery and Charger Set (for RC EYE One) 89029RC
> 2 x LiPo Battery (2 x 3.7 V 350 mAh each)
> 1 x USB LiPo Charger

Replacement Canopy (for RC EYE One) 89032RC
> 2 x Replacement Canopy (with RC EYE One logo, in black)

Transparent Canopy (for RC EYE One) 89033RC
> 5 x Transparent Canopy

Battery Pack (for RC EYE One) 89034RC
> 1 x LiPo Battery (2 x 3.7 V 350 mAh each)

RC EYE OneLINK (for RC EYE ONE) 89036RC
> 1 x RC EYE OneLINK
> 1 x Connecting Cable for Futaba® basic transmitter models
> 1 x Connecting Cable for JR/Spectrum® basic transmitter models
> 1 x USB cable (for firmware upgrade)
> 1 x Operation Manual

Main Frame (for RC EYE One) 89037RC
> 1 x Main Frame
> 1 x Battery Tray
> 6 x Dampers
> 7 x Screws

RC EYE OneCase (for RC EYE One) 89038RC
> 1 x RC EYE OneCase

Parallel Charging Adaptor (for RC EYE One) 89041RC
> 1 x Parallel Charging Adaptor
> 1 x Operating Manual

RC EYE OneCam 5.8 GHz FPV Kit 89042RC
> 1 x RC EYE OneCam TX
> 1 x Open-ended cable (20 cm)
> 2 x 2-to-1 cable
> 2 x Double sided tape (16 x 16mm)
> 1 x RC EYE OneCam 5.8 GHz RX
> 1 x LiPo rechargeable battery
> 1 x mini USB cable
> 1 x AV cable
> 2 x Operating Manual

RC EYE OneCam TX 89049RC
> 1 x RC EYE OneCam TX
> 1 x Open-ended cable (20 cm)
> 2 x 2-to-1 cable
> 2 x Double sided tape (16 x 16mm)
> 1 x Operating Manual

RC EYE OneCam 5.8GHz RX 89050RC
> 1 x RC EYE OneCam 5.8 GHz RX
> 1 x LiPo rechargeable battery
> 1 x mini USB cable
> 1 x AV cable
> 1 x Operating manual

Crash Kit (for RC EYE One S) 89051RC
> 4 x motor with stand (2 x black, 2 x red)

Propeller Set (for RC EYE One S) 89052RC
> 8 x Replacement propeller (4 x black, 4 x red)

17. FCC COMPLIANCE STATEMENT

FCC ID: OMO-M-19 Remote control (MC-131-RCM1 & MC-131-RCM2)

RF Exposure mobile:
The internal / external antennas used for this mobile transmitter must provide a separation distance of at least 20 cm (8 inches) from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter."

Statement according to FCC part 15.19:
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
> this device may not cause harmful interference, and
> this device must accept any interference received, including interference that may cause undesired operation.

Statement according to FCC part 15.21:
Modifications not expressly approved by this company could void the user's authority to operate the equipment.

Statement according to FCC part 15.105:
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.
However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

> Reorient or relocate the receiving antenna.
> Increase the separation between the equipment and receiver.
> Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
> Consult the dealer or an experienced radio/TV technician for help.

18. PRODUCT SUPPORT

Visit “http://www.rclogger.com/index.php/contact-us” or call +852 2559 2662 for product support.
Additionally visit our support forum at “http://rclogger.com/forum”.

19. TECHNICAL DATA

Transmitter

Transmission frequency:	2.4 GHz
Number of transmitter channels:	Auto selection by frequency hopping
Transmitter range:	max. 40 m (free field)
Supply voltage:	3 V/DC (2 type micro/AAA batteries)
Dimensions (W x H x D):	150 x 100 x 70 mm
Weight:	130 g

RC EYE One S

Diameter without propellers:	120 mm
Total height:	47 mm
Propeller diameter:	64 mm
Take-off weight:	approx. 80 g
Rechargeable battery:	1 x LiPo battery (2 x 3.7 V 350 mAh)
Admissible flight operation:	Inner and outer area
Operating conditions:	No to light wind
Admissible temperature range:	0 to +40 °C
Admissible humidity:	max. 75% rel. humidity, non-condensing

Charger

Supply voltage:	5 V/DC
Required input current:	min. 1.5 A
Charging current:	500 mA per charging channel

20. RC EYE ONE S PRELIMINARY RELEASE NOTES

Changes from previous version (from 'RC EYE One' to 'RC EYE One S'):

> TX/RX 2.4 GHz with frequency hopping (Automatic channel selection).
> TX with fixed timer function.
> TX available in Mode 1 and Mode 2.
> New landing gear (Motors are now free above ground).
> Enhanced motor blocking recognition: Motors will be checked and switched off when motor current differs excessive 2 seconds after power-up. Motors will be switched of when a short circuit at any of the motors is detected (*!).
> Stronger driver MOSFET for motors.
> 25% increased power in SPORT mode. Angle boundary remains unchanged in SPORT mode.
> Wobble risk minimized. The copter does not tend to start swinging after fast descending with low motor power.
> Angle-zero-set 2 seconds after reducing power to 0: This allows the user to reduce throttle to 0 while flying for up to 2 seconds.
> Flight mode switchable via TX only (Former CHANNEL select switch).
> Semi automatic acrobatic mode.

(*!): Each time you start to fly the "RC EYE One S", the firmware will check the current flow to each motor. If a motor requires an unusual high amount of power (current flow), all motors will be switched off for safety. You will not be able to use the product until you have identified and replaced the faulty motor. A motor may draw excessive amount of power because it has reached its end of life or because it has been damaged, e.g. a bent shaft or any other damage to the motor including its propeller.